

REMARKS

In the Office Action dated February 21, 2008, claims 1-7, 9-17, 26, and 27 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,909,707 (Rotstein) in view of U.S. Patent No. 6,330,460 (Wong); claim 8 was rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Wong, and further in view of U.S. Patent No. 6,922,435 (Neufeld); claims 18 and 21-24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Wong, and further in view of U.S. Patent No. 6,795,424 (Kapoor); claims 19 and 20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Wong and Kapoor, and further in view of U.S. Patent No. 6,463,303 (Zhao); and claim 25 was rejected under 35 U.S.C. § 103(a) as unpatentable over Rotstein in view of Wong, and further in view of U.S. Patent Application Publication No. 2003/0022635 (Benning).

It is respectfully submitted that the obviousness rejection of claim 1 over Rotstein and Wong is clearly defective.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Here, a comparison of the claimed subject matter and the teachings of Rotstein and Wong would clearly indicate that the claimed subject matter is significantly different from the teachings of Rotstein and Wong. The Office Action conceded that Rotstein fails to disclose the following clause of claim 1: “for each antenna a respective signal generator generating a respective signal comprising a common overhead component common to all the signals, using a spreading code common to all signal generates.” 2/21/2008 Office Action at 5. Instead, the Office Action relied upon Wong as disclosing the claim feature that is missing from Rotstein. *Id.*

The purported combination of teachings of Rotstein and Wong is clearly defective, since Rotstein and Wong are directed to quite different solutions. It is noted that in Rotstein, different PN offsets are used to define different adjacent sectors within a cell. In Fig. 3 of Rotstein, four

distinct PN offsets (A, B, C, D) are used, with the same PN offset reused in sectors that are spatially separated by 120°. Rotstein, 2:44-49. According to Rotstein, by assigning different PN offsets to neighboring sectors, interference between **distinct** pilot channels in corresponding **distinct** sectors is reduced, which would result in reduced pilot pollution. Rotstein, 1:26-28; 40-43; 2:60-62. Thus, Rotstein is concerned with reducing the problem of different pilot channels in different corresponding sectors of a cell interfering with each other. Significantly, it is noted that the teaching in Rotstein of distinct pilot channels in distinct sectors is quite different from what is recited in claim 1, namely that a common overhead component is common to all signals generated by respective signal generators that are transmitted by antennas.

The issue addressed by Rotstein is also completely different from the issue addressed by Wong, which is directed to transmitting directional beams to different mobile stations within one sector, such as mobile stations M1, M2, M3, M4 in sector SS1 of cell 10 in Fig. 3 of Wong. Wong notes that a common channel is communicated within the sector SS1. Wong, 7:40-43. However, Wong notes that if directional beams overlap, such as directional beams to be sent to mobile stations M1 and M4 in Fig. 3, then such directional beams **cannot** be sent simultaneously, but rather, must be sent in different time slices (in other words, at completely different times). Wong, 7:48-67.

Thus, Wong teaches that in the context of multiple directional beams within a single sector, that overlapping beams are not allowed to be transmitted simultaneously, but in fact, must be transmitted at different times. This solution proposed by Wong is completely un-related to the issue address by Rotstein, which refers to use of different PN offsets in different sectors to avoid pilot channel pollution of distinct pilot channels in the different sectors. A person of ordinary skill in the art would clearly have found no reason combine the teachings of Rotstein and Wong to achieve the claimed subject matter.

Moreover, in the context where a common overhead component (such as the common pilot of Wong) is sent in signals by antennas that define a respective plurality of fixed beams within a sector, Wong teaches that overlapping beams must be transmitted in different time slices, which is completely different from using the spreading code with a mutual micro-timing offset recited in claim 1, and which contradicts the recitation in claim 1 that the signals are transmitted substantially simultaneously. Thus, a person of ordinary skill in the art looking to

the teachings of Wong would actually have been led to a completely solution than the claimed invention. Namely, such a person of ordinary skill in the art would have been led by Wong to communicate overlapping beams in completely different time slices, rather than using a spreading code with a mutual micro-timing offset such that the signals can be transmitted substantially simultaneously, as recited in claim 1.

Moreover, Rotstein would have led a person of ordinary skill in the art to a solution in which distinct pilot channels in distinct sectors are communicated using different PN offsets to avoid pilot channel pollution, which is inconsistent with providing a common overhead component common to all signals, as recited in claim 1.

In view of the foregoing, it is clear that a person of ordinary skill in the art would have found no reason to combine the teachings of Rotstein and Wong to achieve the claimed subject matter. Therefore, the obviousness rejection of claim 1 over Rotstein and Wong is clearly defective.

Independent claim 26 is similarly non-obvious over Rotstein and Wong.

Dependent claims, including newly added dependent claims 28 and 29, are allowable for at least the same reasons as corresponding independent claims.

Moreover, in view of the allowability of base claims, it is respectfully submitted that the obviousness rejections of dependent claims over Rotstein, Wong, and other references have also been overcome.

Moreover, claim 5 recites that the coverage area of claim 1 is a cell sector, and that the respective mutual micro-timing offset is less than a predefined maximum value such that the mutual micro-timing offset does not cause a source of one of the signals to be identified as located in another cell sector. In contrast, the PN code offset of Rotstein has to be large enough to identify pilot channels from different sectors, which is contrary to the subject matter of claim 5.

Newly added dependent claim 29 is further allowable for similar reasons as claim 5.

In view of the foregoing, allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (15658ROUS02U).

Respectfully submitted,

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